

engineering data service

SYLVANIA 6DN6 25DN6

MECHANICAL DATA

Bulb	T-12
Base	B8-118, Short Medium Shell Octal, 8-Pin
Outline	(See Drawing)
Basing	5BT
Top Cap	C1-1 Small
Cathode	Coated Unipotential
Mounting Position	Vertical[1]

ELECTRICAL DATA

HEATER CHARACTERISTICS

	6DN6	25DN6	
Heater Voltage	6.3	25.0	Volts
Heater Current	2.5	0.60	Amperes
Heater Warm-up Time[2]		11	Seconds
Heater-Cathode Voltage (Design Center Values)			
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts Max.
Heater Positive with Respect to Cathode			
DC	100	100	Volts Max.
Total DC and Peak	200	200	Volts Max.

DIRECT INTERELECTRODE CAPACITANCES (Approx.)

Grid No. 1 to Plate	0.8 μμf
Input	22 μμf
Output	11.5 μμf

RATINGS (Design Center Values — Except as Noted)

Horizontal Deflection Amplifier[3]

DC Plate Supply Voltage (Boost + DC Power Supply)	700 Volts	Max.
Peak Positive Pulse Plate Voltage (Abs. Max.)	6600 Volts	
Peak Negative Pulse Plate Voltage	1500 Volts	Max.
Plate Dissipation[4]	15 Watts	Max.
Peak Negative Grid No. 1 Voltage	200 Volts	Max.
DC Grid No. 2 Voltage	175 Volts	Max.
Grid No. 2 Dissipation	3.0 Watts	Max.
Average Cathode Current	200 Ma	Max.
Peak Cathode Current	700 Ma	Max.
Grid No. 1 Circuit Resistance	0.47 Megohm	Max.
Bulb Temperature (At Hottest Point)	225 °C	Max.

AVERAGE CHARACTERISTICS

Pentode Operation: With Eb = 125 v, Ec2 = 125 v and Ec1 = –18 v

Plate Current	70 Ma
Grid No. 2 Current	6.3 Ma
Transconductance	9000 μmhos
Plate Resistance (approx.)	4000 Ohms

Zero Bias: With Eb = 50 v, Ec2 = 100 v and Ec1 = 0 v (Instantaneous Values)

Plate Current	240 Ma
Grid No. 2 Current	30 Ma

Cutoff: For Ib = 0.5 ma with Eb = 125 v and Ec2 = 125 v

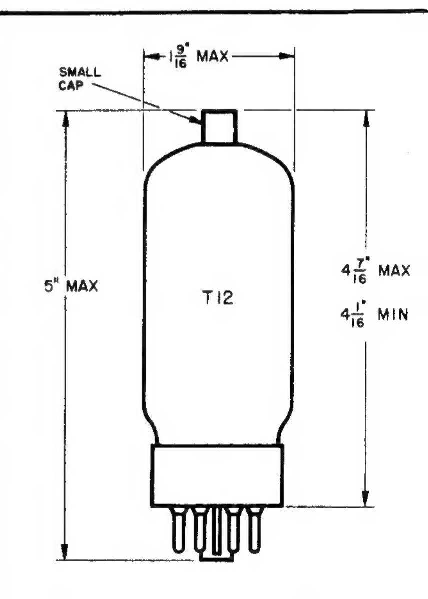
Grid No. 1 Voltage (approx.) . . . –36 Volts

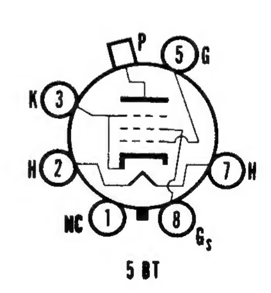
Triode Amplification Factor:
With
Eb = Ec2 = 125 v and Ec1 = –18 v . . . 4.35

QUICK REFERENCE DATA

The Sylvania Type 6DN6 and 25DN6 is a beam power amplifier designed for use as a horizontal deflection amplifier in television receivers having low B supply voltages. This type exhibits an extremely low plate knee characteristic at zero bias.

The 25DN6 features a 25.0 volt, 600 Ma heater and controlled heater warm-up time for series string operation. Except for heater characteristics the 25DN6 is identical to the 6DN6.





SYLVANIA ELECTRIC PRODUCTS INC.

RADIO TUBE DIVISION
EMPORIUM, PA.

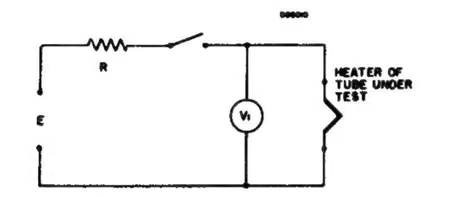
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NOTES:

1. *Horizontal operation permitted if plane of Pins 1 and 3 is vertical.*

2. *Heater Warm-up Time is defined as the time required in the circuit shown below for the voltage across the heater terminals to increase from zero to the heater test voltage (V1). The conditions used in conjunction with the test circuit depend upon the rated heater voltage and current of the tube under test. For this type: E = 100 Volts, R = 125 Ohms, V1 = 20 Volts.*

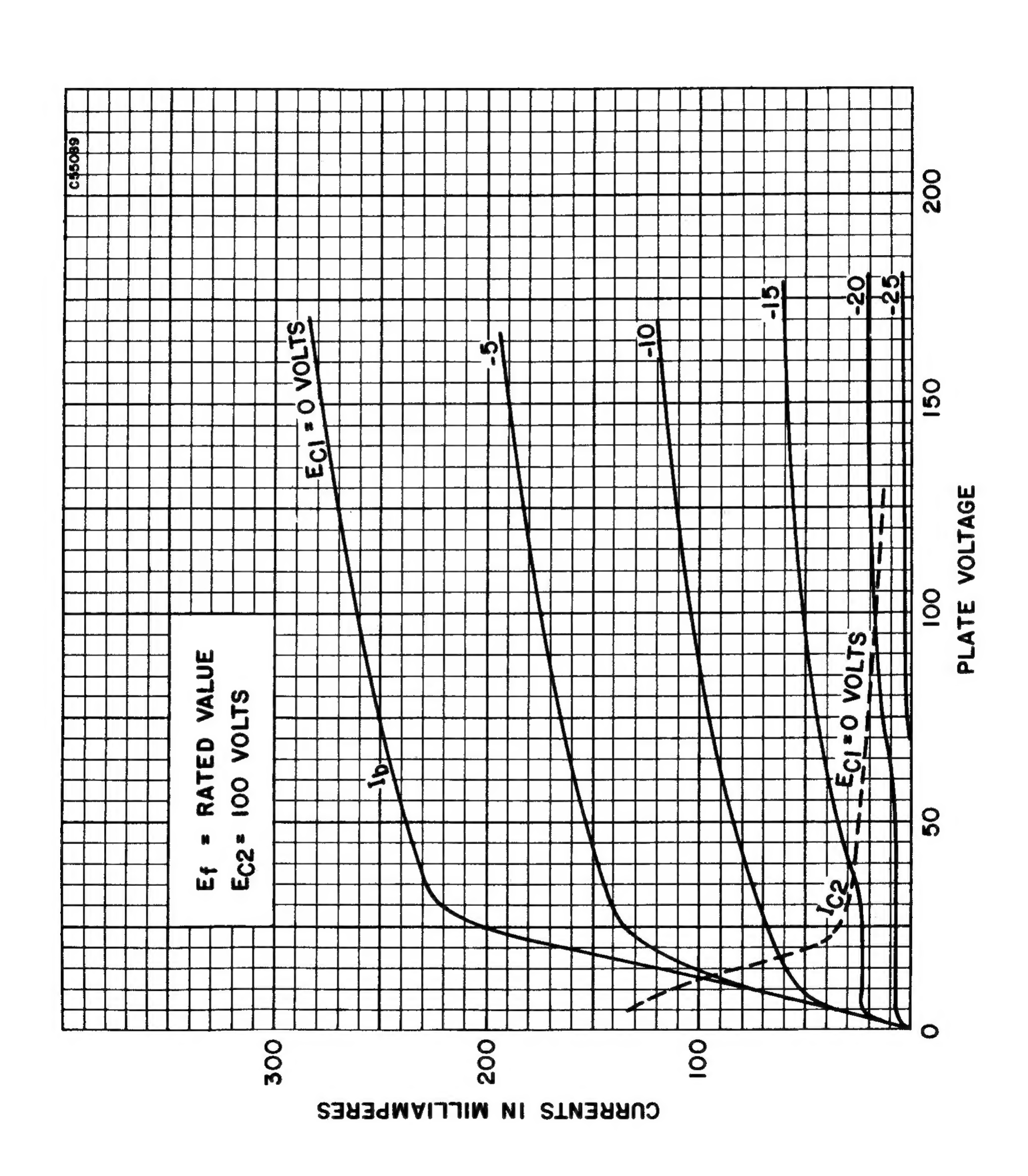


E — Applied Voltage, RMS or DC
R — Total Series Resistance
V1 — Heater Test Voltage, RMS or DC (80% Rated Heater Voltage)

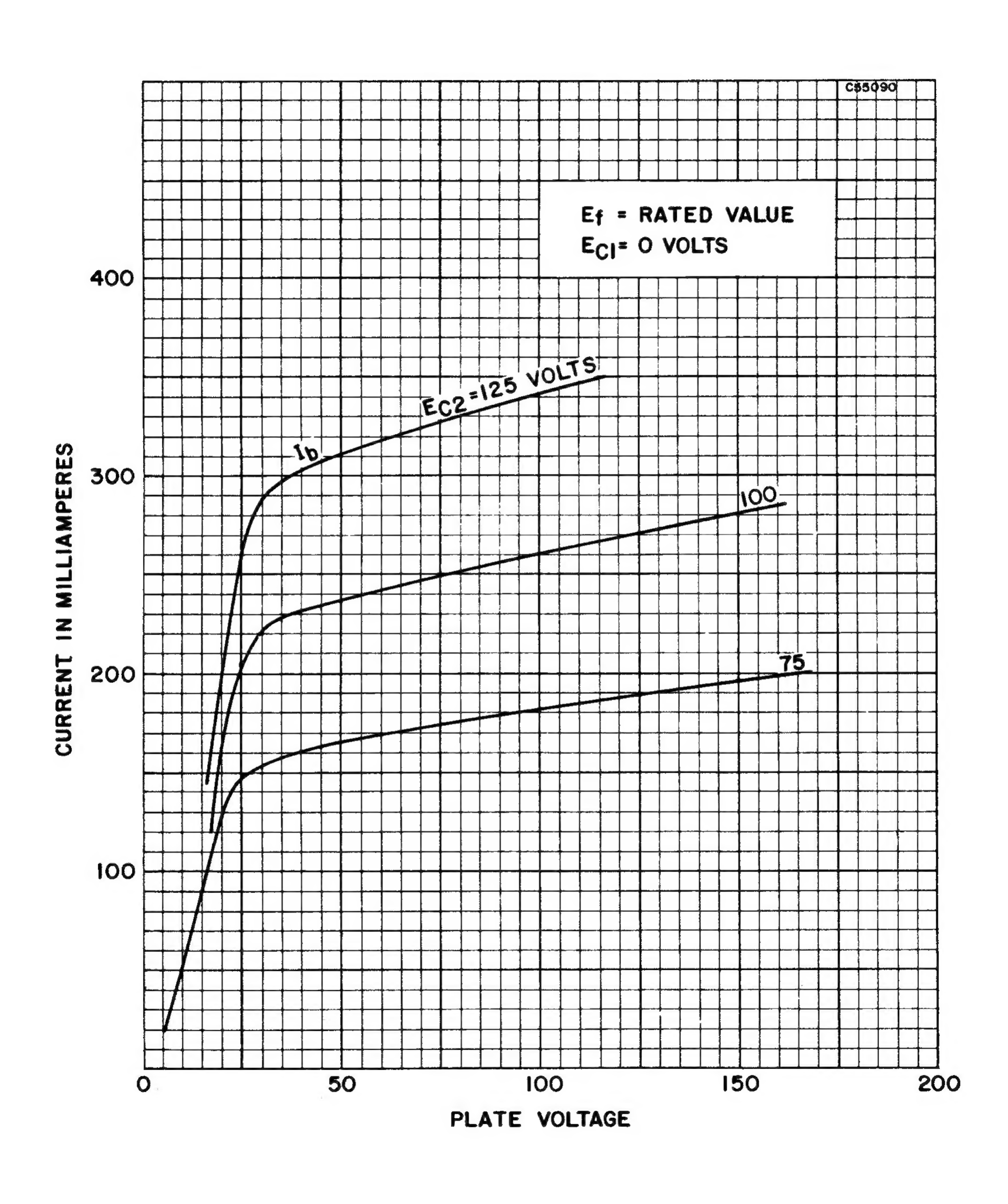
3. *For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission". The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.*

4. *In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.*

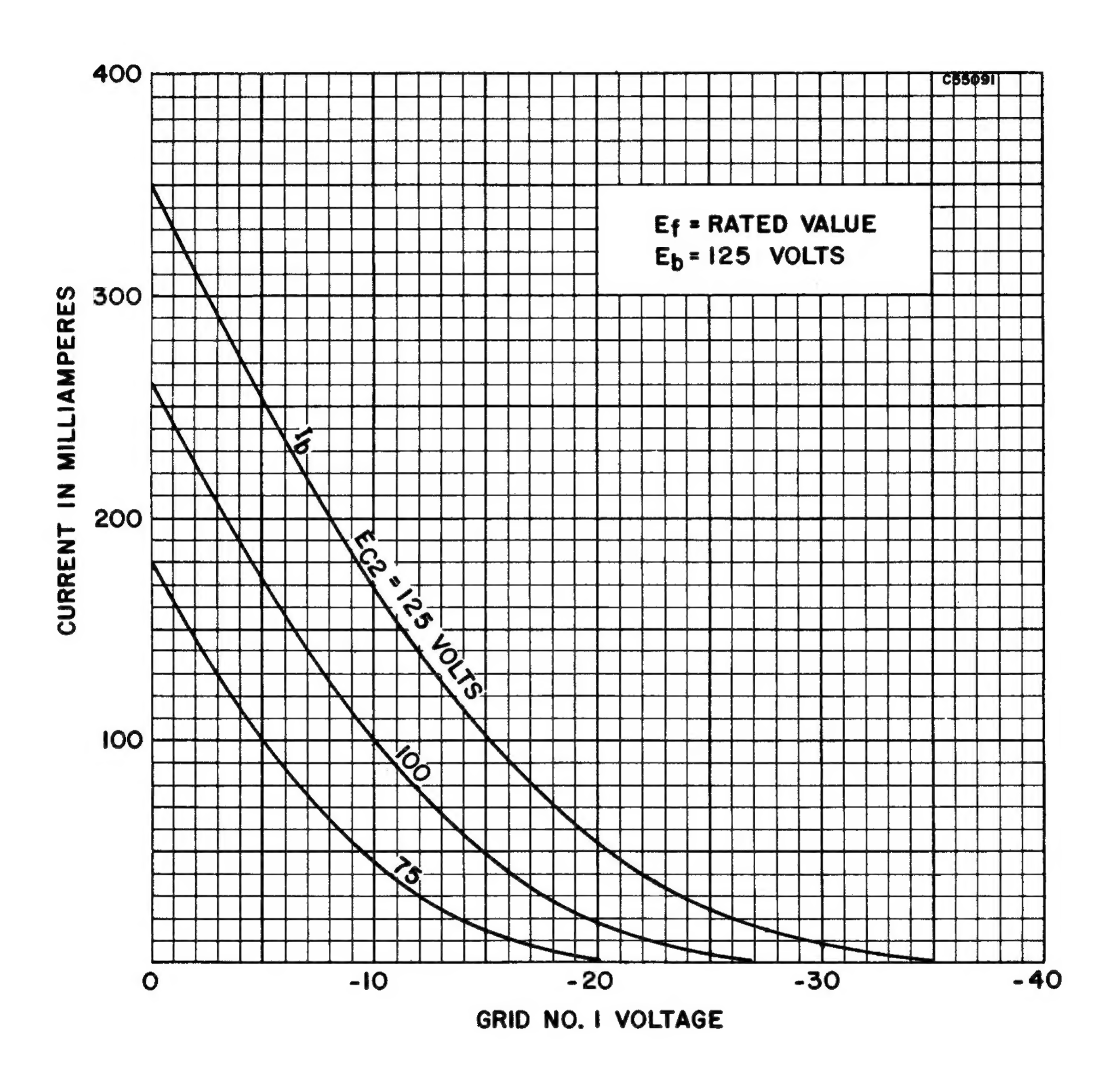
AVERAGE PLATE CHARACTERISTICS



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AVERAGE TRANSFER CHARACTERISTICS



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